WHAT IS CLAIMED IS:

1. A crystal growth process comprising forming an epitaxial semiconductor layer on a porous semiconductor, wherein the porous semiconductor layer has the principal plane of (111)-plane.

2. The crystal growth process according to claim 1, wherein the porous semiconductor is formed by subjecting the surface of a (111) silicon wafer to anodizing.

3. The crystal growth process according to claim 1, which is carried out by liquid-phase epitaxy.

4. The crystal growth process according to claim 1, wherein the deviation of principal plane from the strict (111) plane is within 24'.

5. A semiconductor device production process comprising forming a porous semiconductor on the surface of a semiconductor substrate, and forming on the porous semiconductor an epitaxial semiconductor layer used as an active layer, wherein the semiconductor substrate has the principal plane of (111)-plane.

6. The semiconductor device production process

according to claim 5, wherein the deviation of principal plane from the strict (111) plane is within 24'.

7. A semiconductor device comprising a substrate and formed thereon an active layer having the principal plane of (111)-plane; the active layer being used in photoelectric conversion.

8. The semiconductor device according to claim 7, wherein, where an angle formed by any arbitrary two cutting lines not coming into coincidence is represented by θ, the active layer has a cutting angle of $|\cos\theta| = 1/2$ or $3^{1/2}/2$.

9. The semiconductor device according to claim 7, wherein the deviation of principal plane from the strict (111) plane is within 24'.